CLAIMS

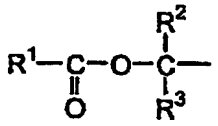
1 A photocurable resin composition comprising:

(A) a component comprising a carboxyl group that may dissociate in the presence of an acid,

(B) a cationically polymerizable compound, and

(C) a cationic photoinitiator.

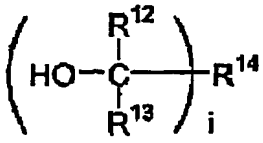
2 The photocurable resin composition according to claim 1, wherein the component (A) comprises a compound (a1) having a structure of the following formula (1),



(1)

wherein R^1 represents an organic group having a polymerizable carbon-carbon double bond, and R^2 and R^3 individually represent an alkyl group having 1-10 carbon atoms or an aryl group having 6-14 carbon atoms.

3 The photocurable resin composition according to claim 1 or 2, wherein the component (A) comprises a compound (a2) having the structure

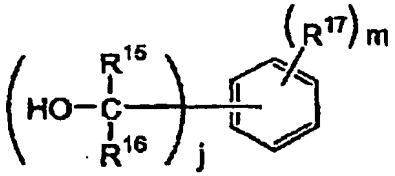


(4)

wherein R^{12} and R^{13} individually represent an alkyl group having 1-10 carbon atoms or an aryl group having 6–14 carbon atoms, R^{14} is an organic group with a valence of i, the R^{14} group indicating a single bond when i is 2, and i is

an integer of 2-4, provided that one of R^{12}, R^{13}, and R^{14} is an alkyl group having 1-10 carbon atoms.

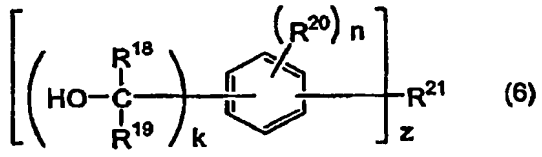
4 The photocurable resin composition according to anyone of claims 1-3, wherein the component (A) comprises a compound (a3) having the structure



(5)

wherein R^{15} represents an alkyl group having 1-10 carbon atoms, R^{16} represents an alkyl group having 1-10 carbon atoms or an aryl group having 6–14 carbon atoms, R^{17} individually represents an alkyl group having 1-5 carbon atoms, j is an integer of 2-4, and m is an integer of 0-4, provided j + m ≤ 6.

5 The photocurable resin composition according to anyone of claims 1-4, wherein the component (A) comprises a compound (a4) having the structure



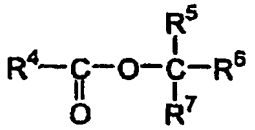
(6)

wherein R^{18} represents an alkyl group having 1-10 carbon atoms, R^{19} represents an alkyl group having 1-10 carbon atoms or an aryl group having 6–14 carbon atoms, R^{20} individually represents an alkyl group having 1-5 carbon atoms, R^{21} is an organic group having a valence of z, -O-, -S-, -CO-, or SO_2, k is an integer of 1 or 2, n is an integer of 0-3, and z is an integer of 2-4.

6 The photocurable resin composition according to anyone of claims 1-5,

wherein the component (A) comprises 2,5-dimethylhexane-2,5-di(meth)acrylate or 1,3-di(2-hydroxypropyl)benzene-di(meth)acrylate.

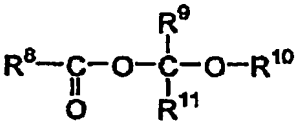
7 The photocurable resin composition according to anyone of claims 1-6, wherein the component (A) comprises a compound (b1) having the structure



(2)

wherein, R^4 represents an organic group having a polymerizable carbon-carbon double bond, R^5 represents an alkyl group having 1-10 carbon atoms, and R^6 and R^7 represent an alkyl group having 1-10 carbon atoms, monovalent alicyclic group having 6-20 carbon atoms, or monovalent aryl group having 6-20 carbon atoms.

8 The photocurable resin composition according to anyone of claims 1-7, wherein the component (A) comprises a compound (b2) having the structure



(3)

wherein R^8 represents an organic group having a polymerizable carbon-carbon double bond, R^9 represents a hydrogen atom, alkyl group having 1-10 carbon atoms, alicyclic group having 3-10 carbon atoms, aryl group having 6-10 carbon atoms, or aralkyl group having 7-11 carbon atoms, R^{10} and R^{11} individually represent an alkyl group having 1-10 carbon atoms, haloalkyl group having 1-10 carbon atoms, alicyclic group having 3-10 carbon atoms, aryl group having 6-10 carbon atoms, or aralkyl group having 7-11 carbon atoms, or any two of R^9, R^{10}, and R^{11} may bond to form a 5-7 member ring.

9 The photocurable resin composition according to anyone of claims 1-8, wherein the component (A) comprises a compound (c), which is a (co)polymer prepared from monomers comprising the compounds (a) and/or (b).

10 The photocurable resin composition according to claim 9, wherein the (co)polymer is prepared from monomers comprising 10-100 mol% of component (b).

11 The photocurable resin composition according to claim 9-10, wherein the polystyrene-reduced weight average molecular weight of the copolymer (c) determined by gel permeation chromatography (GPC) is 1,000-500,000

12 The photocurable resin composition according to anyone of claims 1-11, wherein the proportion of the component (A) used in the photocurable resin composition of the present invention is 1-50 wt%.

13 The photocurable resin composition according to anyone of claims 1-12, wherein the component (B) contains 50 wt% or more of epoxy compounds.

14 The photocurable resin composition according to anyone of claims 1-13, wherein the component (B) is present in an amount from 20-90 wt%.

15 The liquid photocurable resin composition according to anyone of claims 1-14, further comprising (D) elastomer particle having a number average particle diameter of 10 to 1,000 nm.

16 The liquid photocurable resin composition according to anyone of claims 1-15, further comprising (E) an ethylenically unsaturated monomer other than the component (A), and (F) a radical photoinitiator.

17 The liquid photocurable resin composition according to anyone of claims 1-16, further comprising (G) a polyether polyol compound having one or more hydroxyl groups in the molecule.

18 A photofabricated product obtained by curing the liquid photocurable resin

composition according to any one of claims 1-17 by applying light.

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